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ABSTRACT

[00292] An electro-active sensor includes a nonconductive platform with a first electrode set attached with a first side of a nonconductive platform. The first electrode set serves as an electrochemical cell that may be utilized to detect electro-active species in solution. A plurality of electrode sets and a variety of additional electrochemical cells and sensors may be attached with the nonconductive platform. The present invention also includes a method for constructing the aforementioned electro-active sensor. Additionally, an apparatus for detection and observation is disclosed, where the apparatus includes a sealable chamber for insertion of a portion of an electro-active sensor. The apparatus allows for monitoring and detection activities. Allowing for control of attached cells and sensors, a dual-mode circuitry is also disclosed. The dual-mode circuitry includes a switch, allowing the circuitry to be switched from a potentiostat to a galvanostat mode.